AMENDMENTS TO THE CLAIMS:

Please amend the claims to read as follows:

1 Claim 1 (currently amended): A switching fabric for transmitting data frames to destinations,

2 each data frame ~~having~~ specifying a destination, the switching fabric comprising:

3   a plurality of input ports for partitioning ~~portions of~~ received data frames into ~~provide~~

4 data cells; and

5   a plurality of crossbar sections, each ~~of the~~ crossbar ~~sections~~ being coupled to each ~~of the~~

6 input ~~ports~~ for receiving the data cells at cell transfer intervals on a data link coupled between

7 each ~~of the~~ input ports and each ~~of the~~ crossbar sections, each ~~of the~~ crossbar sections being

8 coupled to transmit the data cells to any one of a plurality of output ports,

9   wherein each ~~of the~~ input ~~ports~~ includes logic for scheduling the transmission of each

10 data cell of ~~each said~~ a received data frame ~~received at each of the input ports during a cell~~

11 ~~transfer interval for each data link coupled between each of the input ports and each of the~~

12 ~~crossbar sections~~ to any output port, based upon an ability of ~~each of the~~ a crossbar ~~sections~~ to

13 receive the data cells ~~of the data frames with a destination associated with each of the output~~

14 ~~ports~~ destined for a given output port.

1 Claim 2 (currently amended): The switching fabric of claim 1, wherein each ~~of the~~ input ports

2 maintains a plurality of data frame queues ~~of~~ for received data frames, each ~~of the~~ data frame

3 ~~queues~~ corresponding with one of the output ports and having logic for enqueuing data frames

4 ~~having~~ specifying a destination associated with the output port.

1 Claim 3 (currently amended): The switching fabric of claim 2, wherein each said data frame

2 includes a data payload and each ~~of the~~ input ~~ports~~ provides for each said data frame one or more

3 associated data cells including a portion of the data payload, the one or more associated data

4 cells collectively having the data payload of each ~~of the~~ <u>said</u> data ~~frames~~, wherein <u>the scheduling</u>

5 <u>logic at</u> each ~~of the~~ input ~~ports~~ schedules a transmission of each ~~said~~ data cell to one of the

6 crossbar sections on the data link coupled between each ~~of the~~ input ~~ports~~ and each ~~of the~~

7 crossbar ~~sections~~.

1 Claim 4 (cancel).

1 Claim 5 (currently amended): The switching fabric of claim 3, wherein for each data link

2 coupled between each ~~of the~~ input ~~ports~~ and each ~~of the~~ crossbar ~~sections~~, each ~~of the~~ input ~~ports~~

3 attempts to schedule a data cell of a partially transmitted data frame, the partially transmitted

4 data frame having at least one associated data cell previously scheduled for transmission to a

5 crossbar section, prior to scheduling a transmission of a data cell of a data frame for which no

6 data cells have been previously scheduled for transmission to a crossbar section.

1 Claim 6 (currently amended): The switching fabric of claim 1, wherein each ~~of the~~ crossbar

2 ~~sections~~ maintains a plurality of data cell queues ~~of~~ <u>for</u> data cells received on the data links

3 coupling each ~~of the~~ crossbar ~~sections~~ to each ~~of the~~ input ~~ports~~, each ~~of the~~ data cell queues

4 corresponding with an output port, each ~~of the~~ data ~~cells~~ in each ~~of the~~ data cell queue being of a

5 partition ~~of a portion~~ of a data frame ~~having~~ <u>specifying</u> a destination associated with the output

6 port.

1   Claim 7 (currently amended): The switching fabric of claim 6, wherein each ~~of the~~ data cell

2   ~~queues~~ of the crossbar section is capable of enqueuing a finite number of data cells at any one

3   time, and wherein the ability of the crossbar section to receive data cells of data frames with a

4   destination associated with the output port is based upon a quantity of locations in each ~~of the~~

5   data cell queues, ~~which are~~ each location capable of receiving a single data cell from an input

6   port.

1   Claim 8 (currently amended): The switching fabric of claim 1, the switching fabric further

2   including a plurality of output ports, each output port having logic for reassembling data frames

3   ~~having~~ specifying a destination associated with ~~each~~ said output port from data cells received

4   from each ~~of the~~ crossbar sections coupled to ~~each~~ said output port.

1   Claim 9 (currently amended): The switching fabric of claim 8, wherein each said output port is

2   coupled to one or more media access control (MAC) devices through a common transmission

3   medium, and wherein for each MAC device coupled to ~~each~~ said output port, ~~each~~ said output

4   port maintains an associated MAC queue of reassembled data frames for transmission to ~~each~~

5   said MAC device, the destination of each reassembled data frame in the associated MAC queue

6   being associated with the MAC device.

1   Claim 10 (currently amended): The switching fabric of claim 9, wherein each said output port

2   transmits a signal to each ~~of the~~ crossbar sections indicating an ability to receive data cells from

3   data links coupling ~~each~~ said output port to each ~~of the~~ crossbar sections.

Application No. 09/539,795   Examiner Elallam
Atty. Docket No. P7779   -4-   Art Unit 2662

1   Claim 11 (currently amended): The switching fabric of claim 1, wherein the switching fabric

2   includes a plurality of output ports and for each ~~of the~~ output ports, each ~~of the~~ crossbar sections

3   transmits a signal to each ~~of the~~ input ports indicating the ability of each ~~of the~~ crossbar sections

4   to receive the data cells of the data frames ~~having~~ <u>specifying</u> a destination associated with the

5   output port.

1   Claim 12 (currently amended): A method of transmitting digital data from a plurality of sources

2   to a plurality of destinations, the method comprising:

3   receiving data frames at each of a plurality of input ports;

4   partitioning portions of the received data frames to provide data cells;

5   receiving the data cells at each of a plurality of crossbar sections at cell transfer intervals

6   on a data link coupled between each ~~of the~~ crossbar sections and each ~~of the~~ input ports; and

7   transmitting data cells from each ~~of the~~ crossbar sections to any one of a plurality of

8   output ports; and

9   scheduling <u>at an input port</u> the transmission of each data cell of ~~each~~ <u>a received</u> data

10   frame received at ~~each of the~~ <u>an</u> input ~~ports~~ during a cell transfer interval for each data link

11   coupled ~~between each of~~ <u>to</u> the input ports and each ~~of the~~ crossbar sections based upon an

12   ability of ~~each of the~~ <u>a</u> crossbar sections to receive <u>the</u> data cells ~~of data frames with a destination~~

13   ~~associated with the output port~~ <u>destined for a given output port</u>.

1   Claim 13 (currently amended): The method of claim 12, the method further comprising

2   maintaining a plurality of data frame queues ~~of~~ <u>for</u> the received data frames at each ~~of the~~ input

3   ports, each ~~of the~~ data frame queues corresponding with one ~~of the~~ output ~~ports~~ and enqueuing

4   data frames ~~having~~ <u>specifying</u> a destination associated with the one ~~of the~~ output ports.

1   Claim 14 (currently amended): The method of claim 13, wherein each ~~of the~~ data frames

2   includes a data payload, the method further comprising:

3   providing for each data frame in a data frame queue at an input port one or more

4   associated data cells including a portion of the data payload of each said data frame, the one or

5   more associated data cells collectively having the data payload of each said data frame; and

6   scheduling a transmission of the one or more associated data cells to ~~one of~~ the crossbar

7   sections on the data link ~~coupled between the input port and the~~ the ~~one of the crossbar sections~~.

1   Claim 15 (currently amended): The method of claim 14, the method further comprising

2   scheduling a transmission of the one or more associated data cells to ~~the one of~~ the crossbar

3   sections on the data link coupled between the input port and the crossbar ~~sections~~ prior to

4   scheduling a transmission of a data cell of a subsequent data frame in the data frame queue to

5   any of the crossbar sections.

1   Claim 16 (currently amended): The method of claim 15, the method further comprising, for each

2   data link coupled between each input port and each crossbar section, attempting to schedule a

3   transmission of a data cell of a partially transmitted data frame, the partially transmitted data

4   frame having at least one associated data cell previously scheduled for transmission to a crossbar

5   section prior to scheduling a transmission of a data cell of a data frame for which no data cells

6   have been previously scheduled for transmission to ~~a~~ the crossbar section.

Application No. 09/539,795   Examiner Elallam
Atty. Docket No. P7779   -6-   Art Unit 2662

1   Claim 17 (currently amended): The method of claim 12, the method further comprising, at each

2   ~~of the~~ crossbar sections, maintaining a plurality of data cell queues ~~of~~ for data cells received on

3   the data links coupling each ~~of the~~ crossbar sections to each ~~of the~~ input ports, each ~~of the~~ data

4   cell queues corresponding with an output port, each ~~of the~~ data cells in each ~~of the~~ data cell

5   queues being of a partition ~~of a portion~~ of a data frame ~~having~~ specifying a destination associated

6   with the output port.

1   Claim 18 (currently amended): The method of claim 17, wherein each ~~of the~~ data cell queues of

2   a crossbar section is capable of enqueuing a finite number of data cells at any one time, the

3   method further including determining the ability of the crossbar section to receive the data cells

4   of the data frames with a destination associated with the output port based upon a quantity of

5   locations in each ~~of the~~ data cell queues, ~~which are~~ each location capable of receiving a single

6   data cell from an input port.

1   Claim 19 (currently amended): The method of claim 12, the method further comprising:

2   receiving the data cells at ~~each of the plurality of~~ an output ports from each ~~of the~~

3   crossbar sections coupled to the output ports; and

4   at ~~each~~ the output port, reassembling data frames ~~having~~ specifying a destination

5   associated with ~~each said~~ the output port from data cells received from each ~~of the~~ crossbar

6   sections coupled to ~~each said~~ the output port.

1   Claim 20 (currently amended): The method of claim 19, the method further comprising, at ~~each~~

2   ~~said~~ the output port, maintaining a media access control (MAC) queue of reassembled data

3   frames to be transmitted to one or more MAC devices through a common transmission medium,

4   the destination of each reassembled data frame in the MAC queue being associated with the one

5   or more MAC devices.

1   Claim 21 (currently amended): The method of claim 17, the method further comprising

2   transmitting a signal from each ~~said~~ output port to each ~~of the~~ crossbar ~~sections~~ indicating an

3   ability to receive data cells from data links coupling each output port to each ~~of the~~ crossbar

4   ~~sections~~.

1   Claim 22 (currently amended): The method of claim 12, the method further comprising

2   transmitting a signal from each ~~of the~~ crossbar ~~sections~~ to each ~~of the~~ input ~~ports~~ indicating the

3   ability of each ~~of the~~ crossbar ~~sections~~ to receive the data cells of the received data ~~frames~~

4   ~~having~~ specifying a destination associated with the output port.

1   Claim 23 (currently amended): A switch fabric ~~I~~in a data communication network including a

2   plurality of host computers for transmitting data packets to a plurality of destinations, each

3   destination being associated with a media access control (MAC) device having a MAC address,

4   the ~~improvement including~~ switching fabric comprising:

5   a plurality of output ports, each ~~of the~~ output ports being coupled to at least an associated

6   one of the MAC devices for transmitting MAC data frames to the ~~at least one~~ MAC device

7   according to the MAC address associated therewith;

8   a look-up engine for receiving the data packets from the host computers and forming

9   intermediate data frames based upon the data packets, the intermediate data frames having

10   information identifying an output port associated with one of the destinations of the ~~network~~

11   <u>MAC</u> device in a header and a data payload;

12   a plurality of input ports for receiving the intermediate data frames from the lookup

13   engine, each ~~of~~ of input ~~ports~~ partitioning the data payload of at least some of the intermediate

14   frames received at the input port to provide a plurality of data cells; and

15   a plurality of crossbar sections, each ~~of the~~ crossbar sections being coupled to each ~~of the~~

16   input ~~ports~~ for receiving the data cells at cell transfer intervals on a data link coupled between

17   each ~~of the~~ input ports and each ~~of the~~ crossbar ~~sections~~, each ~~of the~~ crossbar ~~sections~~ being

18   coupled to transmit the data cells to any one of the plurality of output ports,

19   wherein each ~~of the~~ input ports includes logic for scheduling the transmission of each

20   data cell of ~~each~~ <u>a received</u> intermediate data frame ~~received at each of the input ports during a~~

21   ~~cell transfer interval for each data link coupled between each of the input ports and each of the~~

22   ~~crossbar sections~~ <u>to any output port,</u> based upon an ability of ~~each of the~~ <u>a</u> crossbar ~~sections~~ to

23   receive the data cells ~~of data frames associated with the output port~~ <u>destined for a given output</u>

24   <u>port.</u>

1   Claim 24 (currently amended): The ~~data communication network~~ <u>switch fabric</u> of claim 23,

2   wherein each ~~of the~~ input ports maintains a plurality of data frame queues ~~of~~ <u>for</u> received

3   intermediate data frames, each ~~of the~~ data frame ~~queues~~ corresponding with ~~one of the~~ <u>an</u> output

4   ports and enqueuing intermediate data frames ~~having~~ <u>specifying</u> a destination associated with the

5   output port.

1   Claim 25 (currently amended): The ~~data communication network~~ <u>switch fabric</u> of claim 24,

2   wherein each ~~of the~~ <u>received</u> intermediate data frames includes a data payload and each ~~of the~~

3   input ports provides for each data frame one or more associated data cells including a portion of

4   the data payload, the one or more associated data cells collectively having the data payload of the

5   data frame, wherein <u>the scheduling logic at</u> each ~~of the~~ input ports schedules a transmission of

6   the one or more associated data cells to ~~one of~~ the crossbar sections on the data link coupled

7   between each ~~of the~~ input ports and each ~~of the~~ crossbar sections.

1   Claim 26 (currently amended): The ~~data communication network~~ <u>switch fabric</u> of claim 25,

2   wherein each ~~of the~~ input ports schedules a transmission of the one or more associated data cells

3   to ~~one of~~ the crossbar sections on the data link coupled between each ~~of the~~ input ports and ~~each~~

4   ~~of~~ the crossbar sections prior to scheduling a transmission of a data cell of a subsequent data

5   frame in the data frame queue to any of the crossbar sections.

1   Claim 27 (currently amended): The ~~data communication network~~ <u>switch fabric</u> of claim 25,

2   wherein for each data link coupled between each ~~of the~~ input ports and each ~~of the~~ crossbar

3   sections, each ~~of the~~ input ports attempts to schedule a data cell of a partially transmitted data

4   frame, the partially transmitted data frame having at least one associated data cell previously

5   scheduled for transmission to a crossbar section, prior to scheduling a transmission of a data cell

6   of a data frame for which no data cells have been previously scheduled for transmission to the

7   crossbar section.

Application No. 09/539,795   Examiner Elallam
Atty. Docket No. P7779   -10-   Art Unit 2662

PAGE 14/20 * RCVD AT 7/21/2004 4:02:15 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID: * DURATION (mm-ss):06-02

1   Claim 28 (currently amended): The ~~data-communication network~~ <u>switch fabric</u> of claim 23,

2   wherein each ~~of the~~ crossbar sections maintains a plurality of data cell queues of the data cells

3   received on the data links coupling each ~~of the~~ crossbar sections to each ~~of the~~ input ports, each

4   ~~of the~~ data cell queues corresponding with an output port, each ~~of the~~ data cells in each ~~of the~~

5   data cell queues being of a partition ~~of a portion~~ of a data frame ~~having~~ <u>specifying</u> a destination

6   associated with the output port.

1   Claim 29 (currently amended): The ~~data-communication network~~ <u>switch fabric</u> of claim 28,

2   wherein each ~~of the~~ data cell queues of each ~~of the~~ crossbar sections is capable of enqueuing a

3   finite number of data cells at any one time, and wherein the ability of each ~~of the~~ crossbar

4   sections to receive the data cells of the data frames with a destination associated with the output

5   port is based upon a quantity of locations in each ~~of the~~ data cell queues, ~~which are~~ <u>each location</u>

6   capable of receiving a single data cell from an input port.

1   Claim 30 (currently amended): The ~~data-communication network~~ <u>switch fabric</u> of claim 23,

2   wherein each ~~of the~~ output ports includes logic for reassembling the data frames ~~having~~

3   <u>specifying</u> a destination associated with each ~~of the~~ output ports from data cells received from

4   each ~~of the~~ crossbar sections coupled to each ~~of the~~ output ports.

1   Claim 31 (currently amended): The ~~data-communication network~~ <u>switch fabric</u> of claim 30,

2   wherein each ~~of the~~ output ports is coupled to each MAC device associated with each ~~of the~~

3   output ports through a common transmission medium and wherein each ~~of the~~ output ports

4   maintains a MAC queue of reassembled data frames for transmission to the associated MAC

Application No. 09/539,795   Examiner Elallam
Atty. Docket No. P7779   -11-   Art Unit 2662

PAGE 15/20 * RCVD AT 7/21/2004 4:02:15 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID: * DURATION (mm-ss):06-02